

Native Prairie Establishment

Conservation Cover – NRCS Practice code 327



Many species of warm season grasses (big bluestem, little bluestem, indiangrass, etc.) and cool season grasses (Western wheat grass, blue joint grass, Canada and Virginia wild rye, etc.) are native to the state of Illinois. Most of their growth occurs during summer and germination of the seeds occurs when surface soil temperatures reach over 65 degrees Fahrenheit. They exhibit a very robust growth pattern and will reach height of 3 to 7 feet. Height combined with robust growth creates dense stands suited to winter and escape cover. Many songbirds, pheasant, turkey and rabbits will utilize these grasses as foraging and bedding areas. Native grasses fit virtually any planting situation. Once established these grasses are very persistent and compete well with unwanted vegetation. Native warm season grasses will take three to five years to become fully established.

Native Forbs (Wildflowers) and Legumes are an important component of a Warm Season Grass Planting. Forbs are responsible for the large variety of color within the prairie. Forbs and Legumes support large communities of insects, while returning nutrients back into the soil. They add structure to the stand and attract insects. Upland birds feed entirely on insects in the first part of their lives. Forbs can provide bugging opportunities for these species. Native forbs in the mix may also add to the success of the stand by “taking up space” that might otherwise be filled by noxious broadleaved weeds.

Establishing Native Warm Season Grasses

Establishment of native warm-season grasses can be discouraging especially if you are accustomed to working with cool-season species. The primary difference between the two types is in seedling vigor. Warm-season grasses emerge in late spring and most grow quite slowly the first season. Growth is usually very rapid in the second growing season, but may take three years. Many first-year stands are prematurely judged a failure by inexperienced persons. Under the right conditions, native warm-season grass stands should be obviously successful by the second growing season. These should not be considered a failure until after 3 years.

Buying Seed

When ordering Warm Season Grasses and Forbs it is critical that the seed is expressed in Pure Live Seed (PLS) and that you keep the seed tags. It is recommended that you order a little extra seed so you can calibrate the drill and so you do not run out of seed during planting.

PLS is the viable seed that will grow minus the trash. PLS is calculated by adding the percent germination (G) and the percent hard seed (H) then multiplying the percent purity (P). $PLS = P (G+H) \times 100$. The percent PLS multiplied by the bulk weight gives the pounds of PLS.

It is also worth looking into conservation organizations for cost-share on establishing these practices. Several conservation organizations are available to help landowners.

Fertilizer

For successful establishment, test soil and apply needed phosphorus, potassium, and lime prior to seeding. Soil pH should be at least 6.0. **DO NOT APPLY NITROGEN.** Even small amounts of nitrogen stimulate weed growth and retard establishment of native warm-season grasses.

Site Preparation

It is important to prepare the site before a native grass planting. Areas being converted from crop to prairie habitat should be planted to beans the year prior to planting to native grasses. Corn leaves too much chaff on the ground to thoroughly drill seed. However, burning the corn residue can relieve this problem.

Areas being converted from fescue or brome should be treated a minimum of 2 times in order to change the cover type. These species should be sprayed in the fall before plants reach dormancy. This area should then be burned off in late winter to open up open ground. When spring arrives, wait for the area to green back up again and spray it again. When the entire area is dead, you can burn again (if there is enough fuel to carry a fire) and plant directly into the area at that point.

Native Conversion



Spray in fall and burn late winter/early spring



2nd treatment conducted in spring after green up



Plant into it after the 2nd treatment



ESTABLISHING WARM-SEASON GRASSES AND FORBS

Establishment Methods - It may take multiple applications of chemicals until the appropriate kill has been achieved for the desired seeding area. The seedbed should be devoid of anything prior to planting (crop residues are ok prior to planting).

1. Spring No-till Planting - Early Spring (April 1st – June 15th)

No-Tilling reduces soil disturbance thereby lowering annual weed pressure. It also conserves soil moisture, insures good seed to soil contact, and provides excellent erosion control. Plant native Grasses and Forbs using a special No-Till Drill designed to handle fluffy seeds. They can be directly planted into existing fields with crop residue. If weeds and undesirable grasses have inundated the field apply a 2% glyphosate product per acre to kill existing vegetation. Plateau Herbicide can be added at 4 oz. per acre to act as a pre-emergent. This will depend on the seeds to be planted (e.g. Switchgrass and Plateau do not mix!!). Consult experienced operators for detailed advice.

2. Clean Seedbed Planting – Spring (April 1st – June 15th), fall (November 15th – Freeze Up)

Eliminate prior crop residue or sod by plowing in late fall. Disk shallow to kill each new crop of sprouted weeds until planting time. If using a no-till drill roll or cultipacked just prior to seeding and again just after. If seed is broadcast, increase seeding rates by 25% over no-till drill seeding rates. Broadcast Seeds should be covered with no more than one-fourth inch of soil and some exposed seed is good. Do not harrow after seeding. Avoid planting too deep.

3. Seeding Using Fertilizer Air Spreaders –

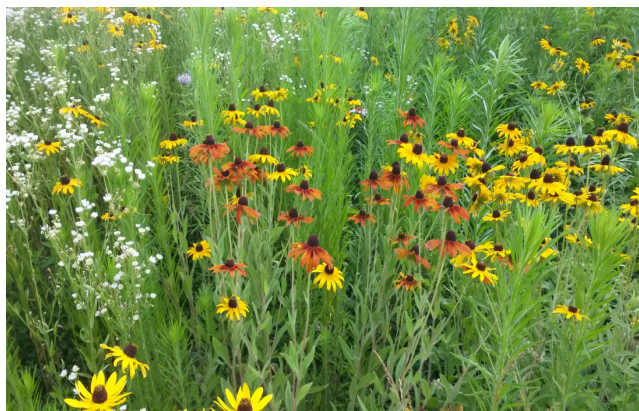
Spring (April 1st – June 15th), fall (November 15th – Freeze Up)

Native grass and forb seed can also be spread using an air spreader. Small amounts of fertilizer (approximately 100-150 pounds/acre) are used as a carrier to keep the “sticky” seed flowing down the tubes of the booms. Choose a fertilizer dealer who has air spreader equipment, and explain the procedure you are wishing to use. Advise the fertilizer company of the acreage you are wishing to plant, and that you would like to mix the seed with the fertilizer to apply about 100 lbs of the mixture per acre. Many fertilizer companies have used similar methods to apply cool season grass or clover seed.

4. Dormant or Winter Seeding – Late Winter (January – February) - Broadcast

Dormant seeding should be done over bare or mostly bare ground in January or February. Frozen ground is preferred for ease of operation of the spreader. Freezing and thawing of the ground will incorporate the seed into the soil. Increase seeding rates 25% over no-till drill seeding rates. Make sure the seed/fertilizer mix is being spread evenly across the field. If mixture is left over after the field has been covered, instruct the operator to distribute that remainder on the field in a random fashion.

Native forbs come in a variety of colors that flower at different times of the year. Have colorful flowers on your property spring, summer, and fall!!!!



Native seeds only need to be drilled on ¼"



Post-Seeding Weed Control

Your Warm Season Grass Field will be weedy the first growing year. During this time it is ok to mow a couple times with a rotary mower to keep the broadleaf weeds controlled. Mow just above the height of your warm season grasses to cut the tops of the broadleaf plants before they seed out. This will help cut back on weed competition and allow the warm season grasses to receive sunlight. If your field is still weedy during the second growing season Mow one time during early spring no lower than 10 inches high. By the third year, grasses should be well on their way and will out-compete weeds.

Field Evaluation - Establishment of Warm Season Grasses can be discouraging; warm-season grasses emerge in late spring and most grow quite slowly the first season. Growth is usually very rapid in the second growing season, but may take three years. Many first-year stands are prematurely judged a failure by inexperienced persons. Under the right conditions, native warm-season grass stands should be obviously successful by the second growing season. These should not be considered a failure until after 3 years. Look for native grass seedlings to emerge about two weeks after the soil temperature reaches 65 degrees F. The seedlings look similar to annual grasses such as foxtail. One difference is the native warm season grasses will show a deep red color at the base of the plant where the stalk meets the soil. WSG grows slowly the first year; 40 - 50% of the seed may be hard or dormant. Emergence from the seed may not take place until the following spring. By August, if you have one live WSG plant per square foot, you will have an excellent stand.



4 months after planting



16 months after planting